

Appl. No.: 10/674,956

Amdt. Dated July 28, 2006

Response to Office Action Mailed February 21, 2006

**REMARKS:**

Applicant appreciates the time and care the examiner has taken in examining the application.

**Amendment.** In the amendment above claims 1-15 and 21-23 are presented, claims 16-20 and 24-25 having been previously cancelled. Claims 1-2 are amended herein.

**Response to Rejections.** The rejections under Sections 102(b) and 103(a) are hereby traversed with respect to the claims as presented herein, for at least the following reasons. Remarks in prior responses are herein incorporated by reference for sake of brevity.

The two independent claims in this application, claims 1 and 2, have been amended in this response in order to even more clearly identify which particular angle is claimed to be approximately 90 degrees in the last clause of each of claims 1 and 2. Claim 1 is amended to more clearly state that the reflective means 12 is positioned so that a light wave exiting from the input optical fiber 13 propagates within the substrate excluding the optical wave guide 11 toward the reflective means 12. The light wave is then reflected from the reflective means 12 to enter the optical wave guide 11, with the input optical fiber 13 and optical wave guide 11 being positioned so that an angle formed between an output direction of the input optical fiber 13 and an input direction of the optical wave guide 11 is set at approximately 90 degrees. Claim 2, which applies to the opposite direction of movement of the light waves (*see, e.g.,* directional arrow in Fig. 4) has similarly been amended in order to even more clearly identify which particular angle is claimed to be approximately 90 degrees.

*Lean, et al.* simply does not anticipate or render obvious these claimed features. Figure 1 of *Lean, et al.* shows that the angle formed between the output direction of the optical fiber 14 and the input direction of the optical wave guide 12 is set to 45 degrees, as has been emphasized in the illustration on the enclosed copy of Figure 1 of *Lean, et al.*, which is attached hereto as Exhibit 1. In Exhibit 1, the horizontal line that follows the input direction of the optical wave guide 12 has been extended, as has the diagonal line that indicates the output direction of the optical fiber 14. The angle between these two lines clearly is 45 degrees. In the final Office action, it is respectfully submitted that the Examiner has misinterpreted the language of claims 1 and 2, and the applicable lines of Figure 1 of *Lean, et al.*<sup>1</sup>

In the embodiment shown in Figure 2 of *Lean, et al.*, it is apparent that the output direction of the optical fiber 32 and the input direction of the optical wave guide 34 (the latter depicted by a small arrow inside optical wave guide 34) are two horizontal, parallel lines on different planes. Thus, clearly Figure 2 of *Lean, et al.* does not disclose an angle of 90 degrees formed between the output direction of the optical fiber and the input direction of the optical wave guide.

Another distinguishing feature set forth in base claims 1 and 2 herein, is the fact that the optical fiber 13 is connected directly to the substrate 10. Figure 1 of *Lean, et al.* clearly does not disclose or suggest such a feature. Figure 2 of *Lean, et al.* does appear to disclose such a feature; however, the embodiment in Figure 2 fails to disclose or suggest the claimed 90 degree angle between the fiber and optical wave guide, and also fails to disclose or suggest the claimed arrangement of the reflective means. In particular, in claim 1 of this application, the reflective means 12 is positioned so that a light wave exiting from the input optical fiber 13 propagates within the substrate 10 toward the reflective means 12, and is then reflected from the reflective

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<sup>1</sup> It is noted that on page 3 of the final Office action, the Examiner refers to *Lean, et al.* as having a substrate having an "electro-optic effect (24)", whereas in *Lean, et al.*, reference numeral 24 refers to an acoustic transducer.

means 12 to enter the optical wave guide 11. Claim 2 sets forth similar structure for reversed direction of movement of the light waves. The Examiner's attention is drawn, in particular, to Figures 4 and 5 in this application, which depict the arrangement of the reflective means 12 as being interposed, as the means for reflecting light waves, between the optical fiber 13 and the optical wave guide 11, which have been arranged at an angle of 90 degrees relative to one another. Neither Figure 1 nor Figure 2 of *Lean, et al.* discloses such an arrangement. Also, the position of reflective means 22 in Figure 1 of *Lean, et al.* is not the same as that claimed in amended claims 1 and 2 herein; in *Lean, et al.* the reflective means 22 is not interposed into the path of the light waves as they travel between the optical fiber and the optical wave guide. No reflective means are depicted in Figure 2 of *Lean, et al.*

For at least the reasons above, the Section 102(b) rejection is traversed and Applicant requests that it be withdrawn.

Further, as to the Section 103(a) rejections, it is respectfully submitted that they should be withdrawn because nothing in the cited references or skill in the art renders obvious the invention as claimed. First, the basis of the rejection lies in finding most of the claimed features to be disclosed in *Lean, et al.* and it has been established in the argument above that *Lean et al.* fails to disclose the claimed features. Second, nothing in *Lean, et al.* or Ulrich, or skill in the art, provides suggestion or motivation to make the particular arrangement of the optical wave guide 11, reflective means 12, and optical fiber 13 as set forth in amended claims 1 and 2 herein. This particular arrangement yields a novel and non-obvious approach to the problem of how to better miniaturize the module 1, using the interposition of the reflective means 12 to reflect light waves between the optical fiber 13 and the optical wave guide 11 in order to yield better miniaturization. The invention enables the improved structure of the module 1 shown in Figure 2 in this application, as contrasted with the Figure 1 prior art structure.

In establishing a *prima facie* case of obviousness under Section 103, it is incumbent upon the Examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See *Ex Parte Clapp*, 227 U.S.P.Q. 972, 973 (B.P.A.I. 1985). "To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher." *W.L. Gore & Associates v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). "The level of skill in the art is a prism or lens through which a judge or jury views the prior art and the claimed invention. This reference point prevents these deciders from using their own insight or, worse yet, hindsight, to gauge obviousness." *Al-Site Corp. v. VSI International, Inc.*, 174 F.3d 1308, 50 U.S.P.Q.2d 1161, 1170 (Fed. Cir. 1999). These standards clearly have not been met. It is apparent that no *prima facie* case of obviousness has been established.

*Extension Request and Fee Authorization.* A three-month extension of time under 37 CFR §1.136(a)(3) is hereby requested. The Commissioner is hereby authorized to charge any required fees or to credit any overpayment associated with this communication to the Deposit Account No. 50-0305 of Chapman and Cutler LLP, including fees for any necessary extension of time under 37 CFR §1.136 for filing this communication.


It is respectfully submitted that the application is in condition for prompt allowance and that all of the objections, rejections and requirements raised in the Office action have been met.

Early, favorable treatment of this application is requested.

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Respectfully submitted,

  
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CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 C.F.R. § 1.8

Attorney Docket Number: 1715028  
App. Serial No.: 10/674,956  
Date of Facsimile Transmission: July 28, 2006  
Transmitted to Facsimile No.: 1-571-273-8300

I hereby certify that the attached correspondence, namely: Response to Final Office Action, with Exhibit, was transmitted by facsimile on the date listed above, to the U.S. Patent Office at the facsimile number listed above, under 37 C.F.R. § 1.8.

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Date of Signature: July 28, 2006